DOCUMENT RESUME

ED 051 749 HE 002 221

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TITLE The Transfer Student: An Institutional Variable in the Analysis of Junior Year College Marks.
INSTITUTION State Univ. of New York, Oswego. Coll. at Oswego.
PUB DATE 3 Aug 70
NOTE 9p.

EDRS PRICE EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS *Academic Performance, Analysis of Variance, Grades (Scholastic), *Higher Education, Transfers, *Transfer Students
IDENTIFIERS *New York State University (Oswego)

ABSTRACT

The purpose of this study was to examine college grades of students, transfer and native, to determine the relationship between grades and transfer status, sex, college division, and major field of study, and their interaction to determine if these variables were related to student achievement. The study focused on the two institutional characteristics: division and major field, and on the joint relationship of variables. The subjects of the study were 128 randomly selected students attending the State University of New York at Oswego. Transfer students were defined as those who had completed more than 30 hours at another institution, while native students were defined as those who had completed less than six semester hours at another institution. The relationships between the independent and dependent variables were analyzed by means of a completely randomized 2X2X2X2X factorial of variance. The results indicated that non-science majors had a significantly higher GPA than did science majors, and that there was a statistically significant interaction between transfer status and the division enrolled: transfer students did better in the Division of Professional Studies, while the native did better in the Division of Arts and Sciences. (AF)

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THE TRANSFER STUDENT: AN INSTITUTIONAL VARIABLE IN THE ANALYSIS OF JUNIOR YEAR COLLEGE MARKS

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HE 002 221

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August 3, 1970

The Transfer Student: an Institutional Variable
in the Analysis of Junior Year College Marks

Transfer students have become an increasing and persistent problem for the four-year college and university. Trent and Medsker (1968) have indicated that more than one-third of a national sample of students who entered college in 1959 changed institutions at least once. Medsker (1960) further indicated that more than four out of every ten students who attended community colleges had successfully transferred to four-year institutions. In view of the rapidly increasing number of community colleges and their growing population of students, as well as the increasing mobility of college students in four-year institutions, these institutions must make plans to deal with a new upper-division population.

Community colleges have a stake in the transfer situation. While four-year college and university administrators have begun to perceive the community college as a necessary adjunct to the state education system and as a means of relieving the ever growing admissions pressure, the community college sees its reputation and status in the community closely tied to the success of its transfer students. If its transfer students are not accepted for admission or if they do not achieve adequate college marks and eventual graduation, the community college's sources of local support are likely to diminish. (Blocker, Plummer, and Richardson, 1965) On an institutional basis, the two-year college has a large stake in the smooth assimilation of the transfer student into the four-year college and university.

Even if the community college transfer student was not a major factor in the transfer process, the four-year college or university would have to face the problems created by student mobility. Many students change institutions in the course of their college career. Schell (1970) has pointed out that almost fifty percent of the students voluntarily withdrawing from a state college indicate their plans to transfer to another institution. Many others plan to withdraw for

limited periods of time to solve personal or family problems and then to seek admission to another institution. The mobility of students is consistent with the vocational and geographic mobility of their parents. (Jencks and Riesman, 1968) This new mobility has forced colleges and universities to consider new patterns of admissions, new upper-division curricula, and new approaches to orientation. Wrenn (1968) challenged the four-year institutions to:

> Provide orientation and adjustment services for transfer students that are equal in quality and extensiveness to those provided for freshmen. . . . Transfer students. . .are perceived as juniors, or sophomores as the case may be and expected to be as institutionally and academically knowledgeable as native juniors. Of course, they are not; they are freshmen in every sense of the word . . . (p. 161)

The literature abounds with recent studies that attempt to shed light on the transfer process and the relationships between the characteristics of the successful transfer students and their less successful counterparts. Young (1964) and Lunneborg and Lunneborg (1967) have indicated that the community college grade-point-average is a less effective predictor of transfer success than is a combination of high school average and standardized test results. Lunneborg and Lunneborg (1967) also attempted to determine the effect of the community college characterists on the grade-point-average of transfer students. Hills (1965) reviewed the literature to determine the differences in achievement between transfer students and native students and concluded that no consistent differences were established. Other studies (Trent and Medsker, 1968) have focused on patterns of flow and attrition rates and have reached similar conclusions. Finally studies have been made of the sociological characteristics of transfer students (Anthony, 1964) and personality characteristics of transfer students. (Trent and Medsker, 1965) While these studies have provided valuable information in the development of the screening function of admissions, the variables studied are of little use in the development of orientation and adjustment programs.

The purpose of this study was to examine the college marks of students, transfer and native, to determine the relationship between marks and transfer status, sex, college division, and major field of study and their interaction in order to determine if these variables were related to student achievement. This study tended to focus on two institutional characteristics, division and major field, and to provide data on the joint relationship of variables.

METHOD

One hundred and twenty-eight junior students attending the State University of New York, College of Arts and Sciences at Oswego were randomly selected from the official roster of the College for the spring 1969 semester. Eight students were selected to represent each of the sixteen possible combinations of the four independent variables. The semester grade-point-average for each of these full-time students was then obtained from the official records of the College.

The independent variables (transfer status, sex, division, and field of study) were selected because of their apparent relationship to the achievement of students, their reliability and accessibility, and their potential impact on the campus community.

Transfer students were defined as those who had completed thirty or more semester hours at another institution. Native students were defined as those who had completed less than six semester hours at another institution.

Students in the Division of Arts and Sciences were defined as those who had indicated this option at the spring semester registration. Students who were in the Division of Professional Studies were defined as those who had indicated their placement in elementary, secondary, or industrial arts education at the registration for the spring semester.

Students majoring in the field of science were those who indicated that their major (Arts and Science) or concentration (Professional Studies) as astronomy,

biology, botony, chemistry, earth science, geology, mathematics, physics, zoology, or closely related fields. Non-science majors were defined as those who were majoring or concentrating in any other fields.

The dependent variable, grade-point-average for the spring semester of the junior year, was chosen because it was not confounded by the fact that the College did not credit marks for some transfer students from other institutions. This variable also minimized the effect of "transfer shock", since most students had been on campus for at least one semester. Finally, the single semester grade-point-average was based on similar classroom experiences for all students, since education majors typically student teach during their senior year.

The relationships between the independent variables and the dependent variables were analyzed by means of a completely randomized 2 x 2 x 2 x 2 factorial of variance (Kirk, 1969) in order to provide information on the main effect of each independent variable and to describe the effect of interaction between these variables. In addition to the usual F-tests for satistical significance and omega-square (ω^2) statistics was calculated for each variable. (Hayes, 1963) This measure of association is an indication of the proportion of variance in the dependent variable that is accounted for by the independent variable or the interaction of independent variables. This measure provides some insight into the practical, as well as the statistical significance of each variable or interaction.

RESULTS

The relationship between the independent variables and the grade-point-average of students at the State University College at Oswego are presented in Table 1.

TABLE 1

Analysis of Variance of Grade-Point-Averages
of Juniors for the Spring 1969 Semester
by Transfer Status, Sex, Division,
and Major Field

SOURCE	SS	df	MS	F	W^2
A Transfer status	0.0996	1	0.0996	0.26	.00
B Sex	1.1269	1	1.1269	2.89	.01
C Division	0.0661	1	0.0661	0.17	.00
D Major	1.9577	1	1.9577	5.03*	.03
A X B	0.0429	1	0.0429	0.11	.00
A X C	1.8745	1	1.8745	4.81*	.03
A X D	0.2088	1	0.2088	0.54	.00
B X C	0.0410	1	0.0410	0.11	.00
B X D	0.2168	1	0.2168	0.56	.00
C X D	1.4175	1	1.4175	3.64	.02
A X B X C	0.5370	1	0.5370	1.38	.00
A X B X D	0.0671	1	0.0671	0.17	.00
A X C X D	0.5370	1	0.5370	1.38	.00
B X C X D	0.0382	1	0.0382	0.10	.00
A X B X C X D	0.0660	1	0.0660	0.17	.00
Within	43.6083	112	0.3894		
Total	51.9045	127			

* $p \leq 0.05$

Non-science majors had a significantly higher grade-point-average than did science majors (mean GPA's of 2.73 and 2.48 respectively). This difference was independent of the other variables and accounted for three percent of the total variance of spring 1969 semester marks for juniors.

There was a statistically significant interaction between the transfer status and the division in which they were enrolled. TABLE 2 presents the mean grade-point-average for the four groups involved.

TABLE 2

Mean Grade-Point-Average by Transfer Status and Division

	Transfer	Native
Arts and Sciences	2.48	2.77
Professional Studies	2.67	2.47

These data indicate that the effect of transferring is different for students in the Division of Arts and Sciences than it is for students in the Division of Professional Studies. Transfer students do better than their native counterparts in the Division of Professional Studies, but their roles are reversed in Arts and Sciences.

While they did not reach statistically significant levels, there were some factors that accounted for some proportion of the total variance of student marks. An interaction between major field and division accounted for two percent of the variance and sex accounted for one percent of the variance. Both of these effects were unrelated to the transfer status of students.

In essence, the independent variables selected for this study accounted for nine percent of the variance in the grade-point-average of the students in the sample.

DISCUSSION

These data indicate that the institutional variables do have some effect on the college marks of students. In this instance the selection of a Division made a considerable difference in the achievement of transfer students and their native counterparts. These data do not supply any insight into the reasons that these differences exist, but they are indicative of the fact that transfer stud-

ents. These differences are probably not generalizable across all parts of the institution, but are indicative of special problems and strengths of transfer students.

It is interesting to note that the differences between science majors and non-science majors appear to be unrelated to the transfer status of the students involved. It would not have been surprising to discover that achievement in the sciences and transfer status was related.

CONCLUSIONS

On the basis of this study it would seem reasonable to conclude that:

1. Generalizable statements about the achievement differences between transfer and native students are, at best, tenuous.

2. Institutional variables do effect the achievement of transfer students.

3. Certain institutional variables have the same effect on transfer students as they do on native students.

4. Orientation and adjustment programs might fruitfully concentrate some of their efforts on helping the transfer student to adjust to the varying demands of the Divisions.

5. Further studies should be carried out to determine the effect of other institutional variables on the achievement of transfer students with special attention paid to the interaction of transfer status with these variables.

SUMMARY

One hundred and twenty-eight students were randomly selected according to their transfer status, sex, division, and field of study. The marks they had earned during the spring semester of their junior year were analyzed to determine the effect of each factor and the interaction of the factors. Statistically significant differences were found between the marks of science majors and non-science majors. A significant interaction between transfer status and division was also observed.

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